

## § 1066.315

### § 1066.315 Dynamometer road-load setting.

Determine dynamometer road-load settings for chassis testing by following SAE J2264 (incorporated by reference in § 1066.1010).

## Subpart E—Preparing Vehicles and Running an Exhaust Emission Test

### § 1066.401 Overview.

(a) Use the procedures detailed in this subpart to measure vehicle emissions over a specified drive schedule. Different procedures may apply for criteria pollutants and greenhouse gas emissions as described in the standard-setting part. This subpart describes how to—

- (1) Determine road-load power, test weight, and inertia class.
- (2) Prepare the vehicle, equipment, and measurement instruments for an emission test.
- (3) Perform pre-test procedures to verify proper operation of certain equipment and analyzers and to prepare them for testing.
- (4) Record pre-test data.
- (5) Sample emissions.
- (6) Record post-test data.
- (7) Perform post-test procedures to verify proper operation of certain equipment and analyzers.
- (8) Weigh PM samples.

(b) The overall test generally consists of prescribed sequences of fueling, parking, and driving at specified test conditions. An exhaust emission test generally consists of measuring emissions and other parameters while a vehicle follows the drive schedules specified in the standard-setting part. There are two general types of test cycles:

(1) *Transient cycles*. Transient test cycles are typically specified in the standard-setting part as a second-by-second sequence of vehicle speed commands. Operate a vehicle over a transient cycle such that the speed follows the target values. Proportionally sample emissions and other parameters and calculate emission rates as specified in subpart G of this part to calculate emissions. The standard-setting part may specify three types of transient

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testing based on the approach to starting the measurement, as follows:

- (i) A cold-start transient cycle where you start to measure emissions just before starting an engine that has not been warmed up.
- (ii) A hot-start transient cycle where you start to measure emissions just before starting a warmed-up engine.
- (iii) A hot-running transient cycle where you start to measure emissions after an engine is started, warmed up, and running.

(2) *Cruise cycles*. Cruise test cycles are typically specified in the standard-setting part as a discrete operating point that has a single speed command.

(i) Start a cruise cycle as a hot-running test, where you start to measure emissions after the engine is started and warmed up and the vehicle is running at the target test speed.

(ii) Sample emissions and other parameters for the cruise cycle in the same manner as a transient cycle, with the exception that the reference speed value is constant. Record instantaneous and mean speed values over the cycle.

### § 1066.405 Vehicle preparation and preconditioning.

Prepare the vehicle for testing (including measurement of evaporative and refueling emissions if appropriate), as described in the standard-setting part.

### § 1066.410 Dynamometer test procedure.

(a) Dynamometer testing may consist of multiple drive cycles with both cold-start and hot-start portions, including prescribed soak times before each test interval. The standard-setting part identifies the driving schedules and the associated sample intervals, soak periods, engine startup and shutdown procedures, and operation of accessories, as applicable. Not every test interval includes all these elements.

(b) Place the vehicle onto the dynamometer without starting the engine (for cold-start test cycles) or drive the vehicle onto the dynamometer (for hot-start and hot-running cycles only) and position a fan that directs cooling air